

## Summary

A novel magnetic resonance imaging method is described, wherein undersampled magnetic resonance signals are acquired by a receiver antenna system having spatial sensitivity profiles and the image being reconstructed from the undersampled magnetic resonance signals and the spatial sensitivity profiles. The reconstruction of the image is provided by an optimization of a cost function which accounts for any of noise statistics, signal statistics, and the spatial response function, the latter of which is defined by the spatial signal response from the object to be imaged, separately for each individual pixel.

(Fig. 1)